

IN THE CLAIMS

Please substitute the following claims (with amendments indicated by editorial marks) for all claims previously presented.

Claims 1 to 18 (Cancelled).

19. (Currently Amended) A system for treating blood from a patient comprising: an extracorporeal circuit having a blood passage including a blood withdrawal tube, a filter and an infusion tube,

said filter having filter blood passage in fluid communication with the withdrawal tube, a blood outlet in fluid communication with the infusion tube, a filter membrane in fluid communication with the blood passage, a filter output section on a side of the membrane opposite to the blood passage, and a filtrate output line in fluid communication with the filter output section;

a biosensor coupled to said extracorporeal circuit and generating a feedback signal indicative of cardiac output of the patient;

a filtrate pump coupled to the filtrate output line and adapted to draw filtrate fluid from the filter at a controlled filtration rate, and

a filtrate pump controller regulating the controlled filtration rate based on the feedback signal, wherein the pump controller includes a processor and a memory storing a control algorithm to determine whether a feedback signal threshold is exceeded by the feedback pressure signal, said controller reducing the controlled filtration if the feedback signal exceeds the feedback signal threshold, wherein the signal threshold is a function of a baseline feedback signal determined during an initial phase of a blood filtration treatment.

20. (Previously Presented) A system as in claim 19 wherein the feedback signal is indicative of an oxygen level in the venous blood.

21. (Previously Presented) A system as in claim 19 wherein the feedback signal threshold is determined based on a sum of a feedback signal obtained during an initial phase of a treatment of the patient and a predetermined current feedback signal change.

22. (Previously Presented) A system as in claim 19 wherein the filter is a hemofilter.

23. (Previously Presented) A system as in claim 19 wherein the treatment device is a dialysis filter.

24. (Previously Presented) A system as in claim 19 wherein the treatment device is an ultrafiltration filter.